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U. S. DEPARTMENT OF LABOR
INFORMATION AND EDUCATION SERVICE
Division of Public Works and Construction Developments

PRICES DURING THE WAR
AND THE
READJUSTMENT PERIOD

AN ADDRESS by T. S. HOLDEN

Investigator, Economics Section, Division of Public Works and Construction
Developments, U. S. Department of Labor

Before the American Institute of Architects
(New York Chapter)

Wednesday, April 9, 1919



WASHINGTON
GOVERNMENT PRINTING OFFICE
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PRICES DURING THE WAR AND THE READJUSTMENT PERIOD.

A study of the index figures of commodity prices in the United States and certain foreign countries shows that while prices have risen very considerably in this country through the war period, the rise in other countries has been greater. According to the figures of the Bureau of Labor Statistics, the wholesale prices of all commodities in September, 1918, were 107 per cent over the average for the year 1913. This was the highest figure reached in this country. The price level in Canada, according to the Canadian Labor Department, reached the high point in November—the price level then being 115 per cent over the 1913 figure. According to the figures of the London Economist, the price level in the United Kingdom was highest in the month of August, being at that time 133 per cent above the 1913 average. Figures on the increase of prices in France are not available for any time later than June, 1918; however, the index figure as published by the Statistique Generale for the month of May showed an increase of 235 per cent over the 1913 price level. Not only do the countries nearer the scene of actual warfare show greater rises in the price level, but it is also true that in these countries the price began to rise at an earlier date than they did in the United States.

A comparison of the rise in the price level in these countries is shown graphically in chart No. 1.

The general rise in commodity prices was accompanied in all these countries by a considerable increase in the amount of money in circulation and in the amount of bank deposits. In this country the average amount of money in circulation per capita in the year 1913 was \$34.65. This increased to \$56.23, the figure for December 1, 1918, an increase of 62 per cent. There has been a slight decrease since that time, the figure for March 1 being \$53.76, which is 55 per cent above the 1913 figure. During the same time bank deposits in the United States have increased almost threefold. In European countries, during the war period, bank deposits more than doubled.

Prof. Irving Fisher, of Yale University, published about a month ago a monograph entitled "The New Price Revolution," in which

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the facts concerning the increase of the amount of money and of credits were brought out, and the statement was put forward that this increase was responsible for the general rise in the price level. Prof. Fisher also pointed out that it is extremely unlikely that there will be a decrease of money and credits in either this country or European countries within the next few years, and that the price level will remain permanently high as compared with the prewar level.

A comparison of the course of prices during the Civil War and the present war shows many points of similarity during the two war periods. The course of prices during the present period of readjustment and the corresponding period following the Civil War show more points of difference than of similarity.

During both wars the wholesale prices of commodities in general rose steadily through the war period. The rise during the Civil War period, taking the year 1860 as the base, runs up to a somewhat higher level than the rise during the present war. In both wars building materials rose in price, but they did not at either time reach levels as high as the price levels of other commodities.

At the beginning of the year 1865, the end of the Civil War being in sight, wholesale prices broke suddenly and violently. During the first six months of the year prices in general fell off 27 per cent from the high level of January. However, the break in wholesale prices, though unprecedented in violence and accompanied by the unsettling influence of the end of the great war, produced no business crisis or depression. Through the latter half of 1865 prices recovered from the low point until in January, 1866, they stood just 16 per cent below the level of January, 1865. From the beginning of 1866 prices dropped slowly downward. They did not reach the prewar level until the year 1878. As is well known, during that period of inflated currency gold was at a premium. However, commodity prices remained above the prices of gold up to and including the year 1877.

Building materials declined in price along with other commodities during the first half of the year 1865. However, the fall was less than in the case of other commodities. Whereas commodities in general dropped 27 per cent, building materials dropped only 14½ per cent. The recovery during the second half of the year was more marked, prices of building materials returning to the level of the last quarter of the year 1864, and remaining at that level for a period of a year before the decline set in. The index figure for the building materials group remained higher than that for all commodities up to and including the year 1874.

The currency was on a distinctly unsound basis in the Civil War reconstruction period. The sharp fluctuations in prices gave rise to

much speculation and the opportunities for development of the resources of the country, such as unused land, rivers and harbors, building of railroads, led to overexpansion of business resulting in the financial panic of 1873. This panic was not accompanied by any sharp decline in prices.

As was stated above, it was 13 years after the Civil War before prices returned to the pre-war level. The principal cause of the return to the pre-war level was the fact that there was such abundant opportunity for the development of new and more economic methods of production in the shape of new forms of machinery and new kinds of business organizations. These opportunities we do not have at the present day in any measure comparable with the previous period.

A study has been made of the course of commodity prices during the present period of readjustment, the study being based on the quotations of wholesale prices of 313 commodities which are published weekly in Dun's Review. The results of this study are indicated graphically on chart No. 2. In figure 1 the abscissæ of the single-line curve represent the numbers of advancing prices noted from week to week, while the abscissæ of the triple-line curve represent the numbers of declining prices from week to week. Figure 2 indicates the changes in Dun's index number for all commodities from month to month. The small arrow halfway up on figure 2 indicates the average index for the year 1913.

Dun's index number stood at its highest level on October 1. Since this number is based on prices for the previous month, it is thus in agreement with the Bureau of Labor Statistics' figure, which shows the high level for the month of September. From October 1 to the present time the price level has been declining. At first weekly quotations showed more advances than declines, although the price level fell by a small amount. From November 30 until March 22 there were each week more declines than advances. February 1 showed 59 declines and 9 advances, this being the smallest number of advances noted during that period and at the same time the largest number of declines. The month of January showed the greatest decline in the price level of any month, about $4\frac{1}{2}$ per cent. The excess in number of commodities showing declines over the commodities showing advances has steadily decreased since February 1, until on March 22 the report shows 26 advances and 26 declines. March 29 figures show 20 advances and 54 declines. Of these 54 commodities showing declines, 21 were on steel products, the declines announced being the result of action of the steel committee in conference with the Industrial Board of the Department of Commerce. Previous declines in steel at the beginning of the year had not brought the prices of these products low enough to stimulate business, as they were still considerably above the general price level of other commodities. The

April 5 number of Dun's Review shows 34 advances against 29 declines.

Thus it is seen that through the period from October 1, 1918, to the present time commodity prices have been going through an orderly process of readjustment. Although there have been many declining prices, at the same time there have been others advancing. On March 1 Dun's index figure showed a decline of 6.9 per cent from the high point of October 1. During the month of March, in spite of the considerable declines in steel, there were sufficient advances in other commodities, mainly foodstuffs, to cause a slight advance in the price level. The index for April 1 shows the price level only 5.7 per cent below the high point of October 1.

The London Economist's index figures show that from September 1, 1918 (the highest level reached), to March 1, 1919, the price level fell 7.5 per cent.

Of 313 commodities quoted in Dun's Review of March 8, 1919, 140 were quoted at prices lower than they were a year previous, and 126 were quoted higher than they were the year previous. The index figures indicate a reduction in the price level from March 1, 1918, to March 1, 1919, of 4.8 per cent. The commodities which were quoted at prices lower than last year's prices consisted of certain foodstuffs, drugs and chemicals, wool, woolen and cotton textiles, metals, and oils. With the exception of steel products, no building materials were quoted at prices lower than last year's prices. Of the commodities which were higher in price than they were at the same time last year, the principal ones were certain foodstuffs, lumber and other building materials, drugs and chemicals, hides, naval stores, oils, paint, and tobacco.

An examination of the price records of the Bureau of Labor Statistics shows only two commodities in the list of over 200 that were lower in price in 1918 than they were in 1913. These two commodities are onions and coffee (Rio No. 7). Both of these commodities have increased in prices since the armistice and are now quoted about 50 per cent above the pre-war price.

Of the commodities that have been included in the study of the price level, the most marked declines since the armistice have occurred in the case of lake copper and pig lead. In November copper was 69 per cent above the pre-war price. Since that time it has dropped down to the pre-war level. Pig lead in November was 79 per cent above the pre-war price, and at the present time it is only 17 per cent above it. In both cases the cessation of the war left very large stocks of these commodities on hand. Both are usually exported in large amounts and there has been no export demand; consequently the very considerable declines in prices of these two commodities are not surprising.

In general, the course of prices since the armistice, as has been outlined, seems to bear out the theory that a new price level has been established.

In the case of iron and steel products war orders for the entente allies began to figure largely during the second half of the year 1915. Demands for steel production were greatly increased and prices advanced at that time. Steel prices continued to advance through the year 1916, and in 1917 it developed that a very large proportion of the steel output of the country would be needed for war uses. Prices of steel, iron, and coke soared to unprecedented levels, until the Government found it necessary to fix the prices on these commodities. The Government's fixed prices ruled the markets from the last quarter of 1917 until the end of 1918.

Most steel prices, before the Government assumed control, were over three times the pre-war figures; some were nearly six times the pre-war figure. The Price-Fixing Committee brought these prices down very considerably. However, the Government's fixed prices were still very high in comparison with pre-war figures. If the average for the period July 1, 1913, to June 30, 1914, be taken as the pre-war base (100 per cent), an average of prices on finished steel products in force at the time of the armistice shows an index of 228. Since the maximum possible production of steel was desired, these commodities being considered as essential for war purposes, it was necessary to fix the prices at such a figure that the producer whose costs were greatest might enter the market and make a fair profit.

The steel industry announced reductions on various items early this year. These reductions brought the index figure on steel products down to 217. The declines, however, were not considered by the buying public as being sufficient to interest them. No orders resulted from these declines, and the steel interests found that further reductions would be necessary in order to stimulate business.

Finally on March 20, after conference with the Industrial Board of the Department of Commerce, the committee representing the steel companies announced a new schedule of prices. The new schedule presented an all-round reduction of $14\frac{3}{4}$ per cent from November prices.

At the present time the index figure for finished steel products is 195—that is to say, these products are now on the average 95 per cent above the figure for the period July 1, 1913, to June 30, 1914. Since this average was obtained by a system of weighting similar to that used by the Bureau of Labor Statistics, it is comparable with the figures of that bureau. The bureau index number for wholesale prices of all commodities for the month of February was 197. It is thus seen that the action of the conference on steel prices had the

effect of bringing these products down to the general level of all commodities.

At the time the new schedule on steel was announced, the steel companies stated that these prices would prevail for the rest of this year. It was also stated that the prices were the lowest possible compatible with the present wage scale. At the present moment, owing to the desire of the Railroad Administration to secure lower prices if possible, there seems to be some doubt as to whether present steel prices will stand. It is hoped that this matter will be settled in the near future.

There was this difference in the conditions that determined prices on steel, and on basic building materials. In the case of materials regarded as not essential, such as most of the building materials other than steel, whether the price was fixed by the Government or in the open market, this price was not sufficiently high to keep all producers in the market, simply because the maximum production was not required by the war-time needs of the country. In fact, construction itself, as well as production of various building materials, was specifically curtailed by governmental order.

Figures of the United States Geological Survey show that actual production of common lime in 1918 was 20 per cent less than in 1917. Portland cement produced in 1918 was 23 per cent under the 1917 figure. Lumber was reduced 19 per cent in output. Common brick in 1917 was 21 per cent under 1916. It has been estimated that in 1918 the production of common brick was less than half the 1917 figure.

As a consequence, the markets are understocked rather than overstocked in these commodities. If any one of these commodities had been considered as essential as steel the Government would have been obliged to fix the prices on them at figures high enough to encourage every producer in the country to run his plant at maximum capacity with a guarantee of a reasonable profit on his output. In that case the prices on these commodities would have reached much higher levels than they actually did.

Lumber as a group during the last quarter of 1918 was 73 per cent higher in price than in the pre-war period, July 1, 1913, to June 30, 1914. The building-materials group, including lumber but not including metal products, was 84 per cent above the pre-war figure. This seems large, but as compared with 113 per cent increase on commodities other than building materials, the increase seems justifiable. The farm-products group showed an increase of 116 per cent at the same time.

It is interesting to compare the farm-products group with the lumber group. The indices show that at the beginning of the year a farmer could exchange a certain amount of his produce for 25 per

cent more lumber than the same amount of produce would have brought him in the year preceding the war.

Chart No. 3 shows graphically the rise in these various classes of commodities. The circles in the center represent the shrinkage of the pre-war dollar, expressed in terms of these groups of commodities, the shaded portions representing the values of the dollar in terms of these several price levels. Roughly speaking, by the end of 1918 the pre-war dollar, as expressed in terms of farm products, had shrunk to 46 cents; as expressed in terms of lumber, it had fallen to 58 cents; in terms of building materials (not including steel), it fell to 54 cents; and in terms of all commodities other than building materials, it fell to 47 cents.

A composite index for all building materials including steel, as well as lumber and the rest, would show an increase of 93 per cent over the pre-war period for the last quarter of 1918. At the present time the index would be 189.

Building material prices increased somewhat more in the East than in the Middle West and in the West. Since the opening of the year lumber has increased somewhat in price. Common brick have also increased in the New York market. On the whole the group of basic materials, not including lumber or steel, has remained practically stationary, declines in some items being offset by advances in others. From all indications the prices of building materials on the whole do not seem to be subject to any declines of consequence in the future.

An attempt has been made to estimate the increase of construction costs. With the cooperation of the United States Housing Corporation, a comparison of the cost of a two-family wood-frame and stucco house, as between the present time and 1915, has been made, prices prevailing in the neighborhood of New York being used. This estimate showed an increase in cost of construction for this type of building of 48 per cent.

An architect in St. Paul, Minn., has furnished the cost per cubic yard of hospital buildings of reinforced concrete construction for each year from 1911 to 1918. These figures were based on actual buildings, all of the same type, all by the same architect and the same contractor. They show that the 1918 building cost was 80 per cent more than the 1915 building. The cost to-day should be appreciably less than this, with reduced prices on reinforcing material and increased efficiency of labor.

The Engineering News-Record of February 20 published an estimate on a steel-frame office building in the city of Chicago, showing an increase in cost of 87 per cent over 1915. This would be reduced somewhat now as a consequence of the reduced cost of structural steel.

The subject of increased construction costs is very important, and the Division of Public Works and Construction Development is now

investigating this phase of the problem with the hope of having more complete data on it in the near future.

In conclusion, after a somewhat extended study of prices, it is the opinion of the Division of Public Works and Construction Development that a new price level has been established by economic conditions attending the world war; and that economic forces appear to have already acted to stabilize prices at a level below which they are not likely to fall by any appreciable amount in the near future. It is believed that the growing confidence in the future of business in this country, evidence of which is seen on all sides, is well justified by the facts that have been learned through the study of the price situation. Evidence of the stability of business to-day is the fact that during a five months' period of stagnation the number of business failures has been unusually low.

At the present time there is less concern over high prices than there is with regard to the stability of prices. It appears that the wisest business men are those who decide now to go ahead with the construction of buildings and the production of goods; the need for both forms of activity are more imperative now than ever before.

THOS. S. HOLDEN.

Authorities
U.S. - Bureau of Labor Statistics
Canada - Canadian Labor Dept.
United Kingdom - London Economist.
France - Statistique Générale

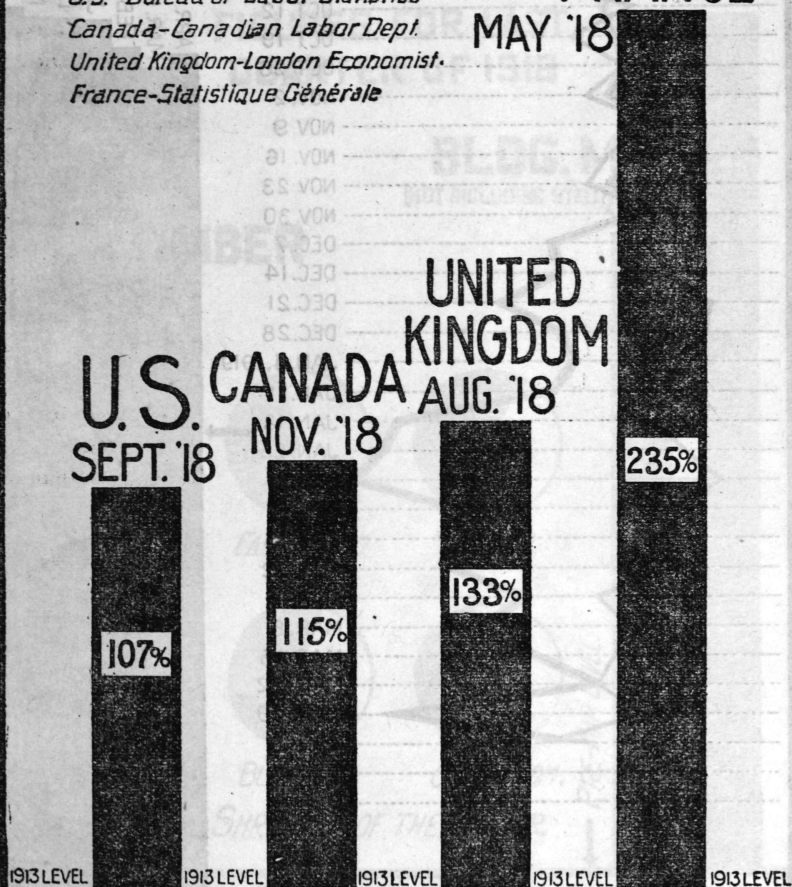
FRANCE

MAY '18

U.S.
SEPT. '18

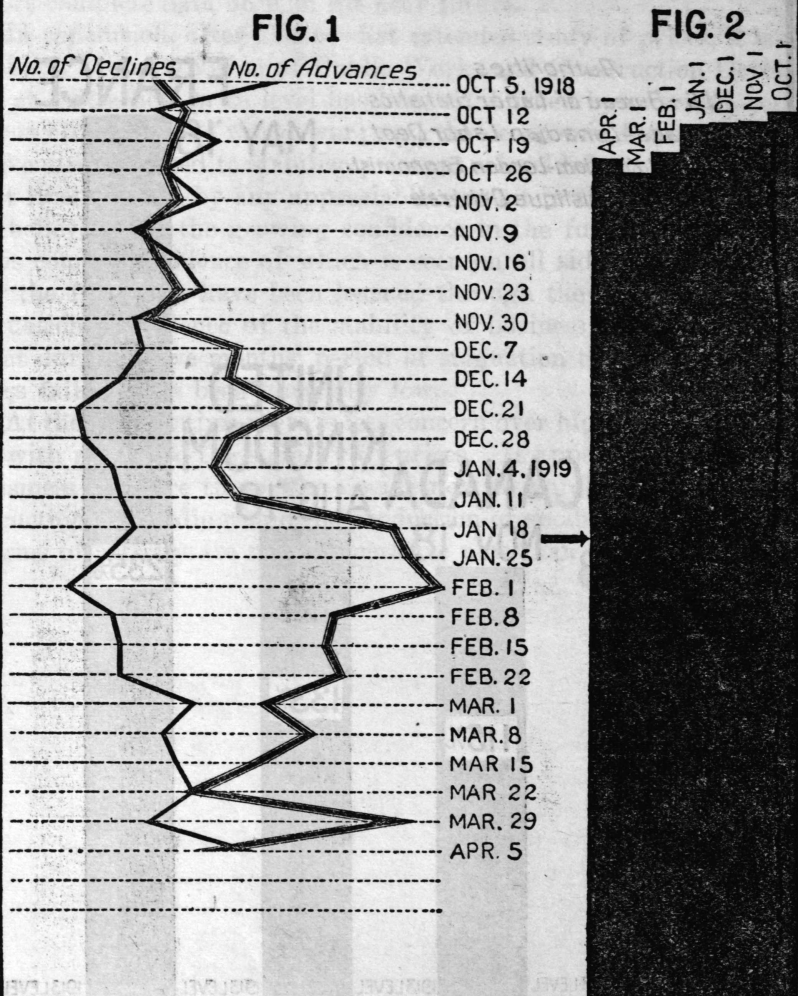
CANADA
NOV. '18

UNITED KINGDOM
AUG. '18



MAXIMUM RISE OF THE PRICE LEVEL IN THE U. S. AND OTHER COUNTRIES

U. S. DEPARTMENT OF LABOR
INFORMATION AND EDUCATION SERVICE
DIVISION OF PUBLIC WORKS AND CONSTRUCTION DEVELOPMENTS



THE FALL OF THE PRICE LEVEL DURING THE PERIOD OF READJUSTMENT

FIG. 1 - *Number of Declines and Advances in Weekly Quotations*

FIG. 2 - *Dun's Index Number for 313 Commodities*

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FARM PROD.

116%

OTHER COM.

113%

**FIGURES FOR LAST
QUARTER OF 1918**

LUMBER

73%

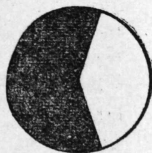
BLDG. MAT.
(NOT INCLUDING STEEL) **84%**



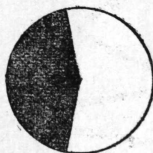
FARM PROD.



LUMBER



BLDG. MAT.



OTHER COM.

SHRINKAGE OF THE DOLLAR

PRE-WAR LEVEL
↓

COMPARISON OF RISE IN BUILDING MATERIALS AND OTHER COMMODITIES

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DIVISION OF PUBLIC WORKS AND CONSTRUCTION DEVELOPMENTS

OTHER COM.

FARM PROD.

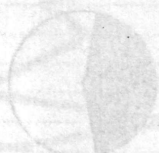
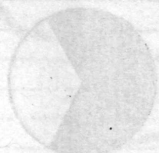
113%

115%

FIGURES FOR LAST
QUARTER OF 1918

BLDG. MAT.

LUMBER



SHRINKAGE OF THE DOLLAR

COMPARISON OF RISE IN BUILDING MATERIALS AND OTHER COMMODITIES

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